

Records and Descriptions of African Encyrtidae—5

(Hymenoptera: Encyrtidae)

by

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This paper presents records and descriptions of three encyrtids belonging to the genera *Clausenia* Ishii, *Alamella* Man Mohan and *Gyransoidea* Compere. They are parasitic in economically important, citrus-infesting mealybugs (Homoptera: Pseudococcidae). A new species of *Aphidencyrtus* Ashmead is described which, so far as is known, restricts its attack to primary parasites inhabiting psyllids (Homoptera: Psyllidae). A species of *Syrphophagus* Ashmead known from the Orient is recorded from a common aphidivorous syrphid fly in South Africa, and the genus *Mayrencyrtus* Hincks, represented by two species, is recorded from Africa for the first time. Two species of *Comperia* Gomes are described from unreaired South African material.

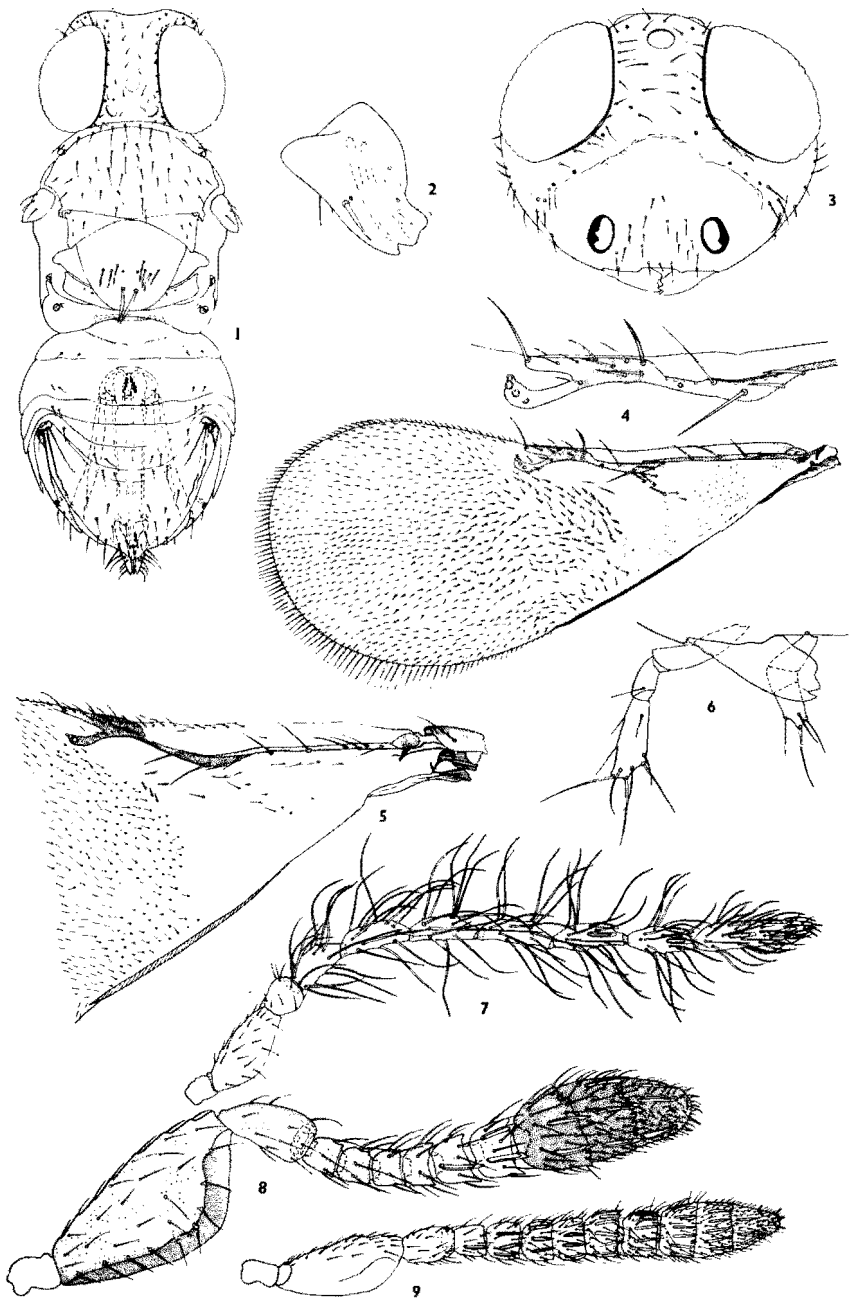
Genus *MAYRENCYRTUS* Hincks, 1944

The following two African species are assigned to *Mayrencyrtus* on the basis of their general structural similarity to the European type-species, *M. glaphyra* (Walker), as redescribed by Mercet (1921) and Nikolskaya (1952), and to the Japanese species, *M. japonicus* Tachikawa, 1963. The new South African species was reared in numbers from a *Lecaniodiaspis* species. *M. japonicus* (see Tachikawa, 1963) is also recorded as parasitic in a species of this coccoid genus.

The two species dealt with below have the maxillary palpus four-segmented and the labial palpus with three segments. In this respect they differ from *M. japonicus*.

Mayrencyrtus armillatus spec. nov., figs 1—8

FEMALE. Colour predominantly yellowish-brown with frontovertex (especially anterior to ocellar triangle), mesoscutum and declivous hind margin of scutellum polished, gleaming, refringent; gaster dorsally shiny; face paler than frontovertex; antennal radicle, lower margin of scape narrowly, and club, dark brown; pedicel brown dorsally; apical two funicle segments yellowish-white, remainder yellowish-brown with brown setae; mesoscutum darker, scutellum more yellow, paler than frontovertex; metanotum and propodeum yellowish; scutellum with about five dark brown setae on each side (fig. 1); thoracic venter yellowish-white except prosternum which is brown; middle and hind tibia each with two more or less complete dark brown bands; fore tibia with a dark brown streak externally near base; basal segment of fore and hind tarsus and apical segment of all tarsi brown; remainder of legs yellowish-white; fore wing largely infuscated as in fig. 4; hind wing hyaline; gaster yellowish-brown with an



incomplete transverse dark brown band dorsally at base, and a brown dorsal spot at extreme apex.

Length about 1.1 mm.

Head (figs 1 and 3) about 3.5 times as wide as frontovertex at median ocellus; frontovertex and eyes in a slightly convex plane, the former about 2.5 times as long as wide, narrowest somewhat anterior to median ocellus; eyes longer than wide, ocelli in less than a right-angled triangle, placed on about caudal one-third of frontovertex, the posterior ocellar interval greater than distance between anterior and posterior ocelli; frontovertex produced anteriorly and in front of eyes as a suprafacial carina (fig. 3); anterior edge of head in dorsal view sinuate (fig. 1); head in lateral view subtriangular; face and scrobes rather flat, interrupted by a broadly rounded interantennal prominence which becomes narrower dorsad beneath a shallow scrobal confluence; antennal insertions widely separated, more distant from lateral part of facial carina than from mouth; cheeks strongly rounded; antenna (fig. 8) with scape foliaceously expanded; pedicel longer than basal two funicle segments together; funicle segments I—IV small, the first three each subquadrate, the fourth wider than long; V distinctly larger than preceding ones, slightly smaller than VI; club three-segmented, about as long as five preceding segments together, about 1.5 times as wide as funicle VI; inner and dorsal aspect of scape, pedicel and flagellum setose; funicle V and VI and all club segments with rhinaria; mouth parts as in fig. 6, the palpi four- and three-segmented; mandible (fig. 2) with an acute ventral tooth and a broadly retuse upper one.

Thorax (fig. 1) with mesonotum rounded dorsally; mesoscutum without parapsidal sulci; hind margins of axillae narrowly declivous on to scutellum, the sloping part of each polished; scutellum wider than long, its hind margin declivous, polished; metanotum hidden medially beneath apex of scutellum; mesoscutum with numerous scattered slender setae; scutellum devoid of setae except on distal part (fig. 1), these setae all flattened, the caudal pair strong and erect, the remainder recumbent or suberect; mesoscutum with very fine cellulate-reticulate sculpture, the cells mostly wider than long, rounded caudally; axillar sculpture similar but coarser; scutellum with coarse, longitudinally oriented, cellulate-reticulate sculpture.

Legs not especially modified, the middle tibial spur slightly shorter than adjacent tarsal segment.

Fore wing (fig. 4) having submarginal vein with a distinct subtriangular expansion, marginal longer than postmarginal, the latter not reaching as far towards wing apex as stigmal which is strongly curved; setation of wing as in fig. 4; hind wing setose from near base to apex.

Gaster shorter than thorax; ovipositor and styli very shortly exerted, the former longer than middle tibia (about 1.3:1), the latter longer than middle tibial spur (about 8:7); shaft of ovipositor about 3.8 times as long as styli.

EXPLANATION OF FIGURES

Figs. 1-9. *Mayrencyrtus* species, 1-8. *M. armillatus* spec. nov., paratypes. 1. Head, thorax and abdomen, dorsal (♀ T 697-1). 2. Mandible (♀ T 697-4). 3. Head, front view (♀ T 697-3). 4. Left fore wing, with details of venation (♀ T 697-2). 5. Base of fore wing, (♂ T 2078). 6. Maxillary and labial palpi (♀ T 697-4). 7. Left antenna, inner aspect (♂ T 2078). 8. Left antenna, inner aspect (♀ T 697-2). 9. *M. ceroplastae* (Risbec), right antenna (♀ T 2635).

MALE. Colour black with blue and green metallic reflections on head and thorax; antenna (fig. 7) with radicle and scape pallid, flagellum similar, the funicle segments with long dark setae; wings (fig. 5) hyaline, the venation of fore wing brown; coxae black, only the apices pallid; fore femur with a touch of brownish ventrally, tibia with a brownish streak externally; middle tibia with a small faint infuscation externally near base and another beyond middle, corresponding with dark bands of the female; hind femur black except at ends; tibia with two incomplete blackish-brown bands which are confluent externally; apical segment of each tarsus dusky; legs otherwise whitish. Gaster black.

MATERIAL EXAMINED. ♀-Holotype, 92 ♀- and 1 ♂-paratypes, SOUTH AFRICA: Hennops River, Tvl, xi. 1965, M. J. Mynhardt (♀-holotype, 40 ♀- and 1 ♂-paratypes, T 2078); Pretoria, Tvl, xii. 1961, D. P. Annecke (52 ♀-paratypes, T 697); all reared from *Lecaniodiaspis tarsalis* Newstead on *Dombeya rotundifolia* Planch. Holotype and paratypes in the Plant Protection Research Institute, Pretoria; 2 ♀-paratypes in both the United States National Museum, Washington, and the British Museum (Natural History), London.

Mayrencyrtus ceroplastae (Risbec), **comb. nov.**, fig. 9

Anagyrus ceroplastae Risbec, 1951, *Mem. Inst. fr. Afr. noire* 13: 106-8

Risbec (1951) described this species from a single female specimen which is now in the Musée d'Histoire naturelle, Paris. The writer has studied this holotype specimen as well as others, determined as conspecific by Risbec, which are in the collection of the Office de la Recherche Scientifique et Technique Outre-Mer, Bondy (Seine), France. Part of the latter material has been remounted and studied in detail.

M. ceroplastae is quite obviously distant from *Anagyrus*, and is very similar to the foregoing new species. Chief points by which *ceroplastae* may be distinguished are as follows: colour more brown to reddish-brown; suprafacial carina much less strong especially medially, represented more by an abrupt declivity than by a carina; antenna (fig. 9) with club shorter than preceding four segments together; funicle segments gradually changing, first to sixth, from longer than wide to wider than long, all provided with rhinaria; ovipositor shorter than middle tibia (about 3:5); styli shorter than middle tibial spur (about 5:7).

MATERIAL EXAMINED. ♀-Holotype and 10 ♀ (2 ♀ on slides, T 2635, remainder preserved dry), originally labelled "Bambey 512, 4-2-51, *Anagyrus ceroplastae* Risbec". The holotype is in the Musée d'Histoire naturelle, Paris; the remaining specimens (save 1 ♀ on a slide in the National Collection of Insects, Pretoria) are in the collection of the Office de la Recherche Scientifique et Technique Outre-Mer, Bondy (Seine), France. In the original description (Risbec, 1951), it is stated that the type female was reared from a scale insect on *Combretum aculeatum*.

Genus *COMPERIA* Gomes, 1942

The type-species, *C. merceti* (Compere), was described from Africa (Compere, 1938) under the name *Dicarnosis merceti*. Specimens of this species, including material determined by Mr H. Compere and Dr B. D. Burks, have been studied. The new species differ most obviously from *C. merceti* in such characters as width of frontovertex and colour of fore wing and antennae.

***Comperia domestica* spec. nov., figs 10—12**

FEMALE. Colour dark metallic; head with a strong metallic sheen, dark greenish to cupreous on frontovertex, more strongly cupreous on face; antenna black to brownish-black except pedicel, last two funicle segments and entire club which are white; mesoscutum metallic greenish-blue; axillae and scutellum shiny blackish-brown, weakly metallic; sides and venter of thorax predominantly brownish-white, with anterior one-half or so of mesopleuron dark brown; legs including coxae mostly brownish-white, but with fore and mid femora distally, entire hind femur, and fore and hind tibiae basally suffused with brownish or blackish-brown; fore wing strongly infuscated (fig. 10) except near base and in an incomplete discal band; gaster black to blackish-brown, with a blue-green metallic gleam across dorsum at base.

Length about 1.6 mm.

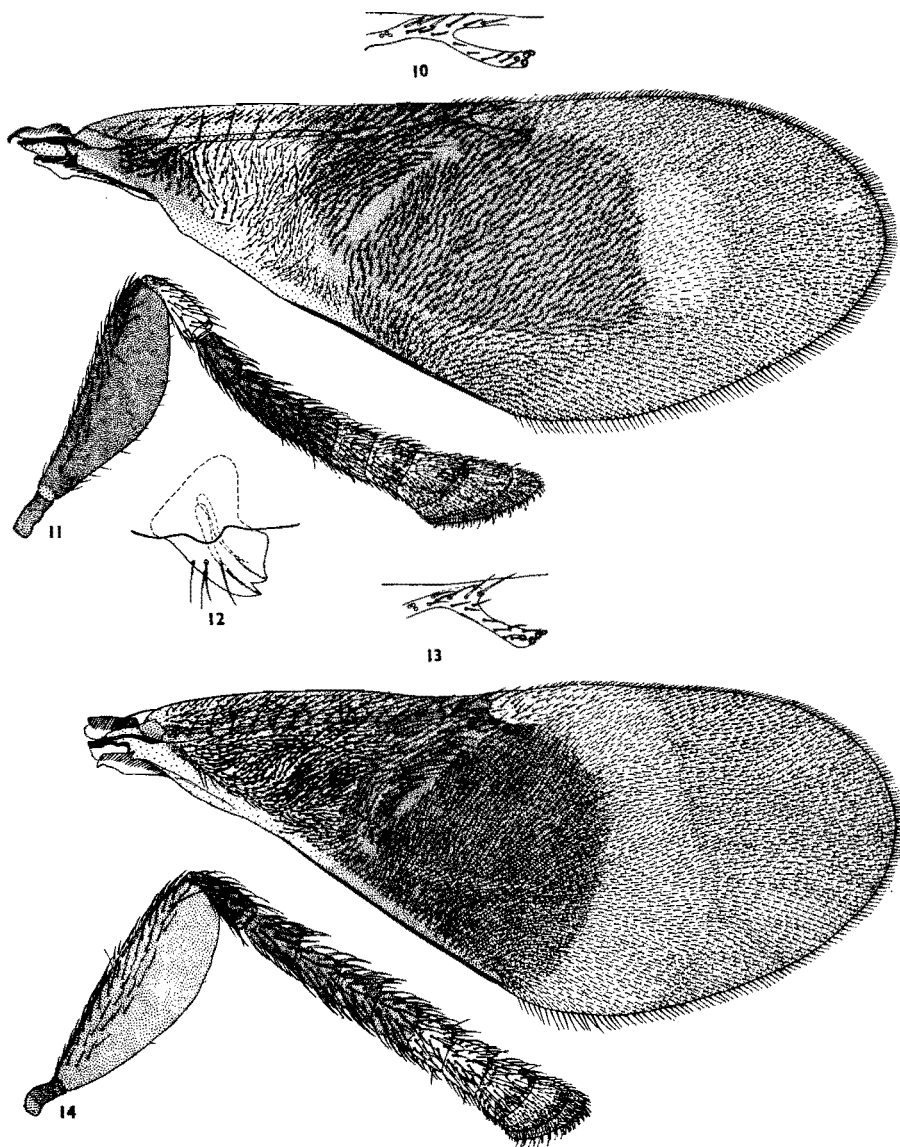
Head approximately 3.6 times as wide as frontovertex at median ocellus; ocelli in a slightly acute-angled triangle of which the lateral ocellar interval forms slightly the longest side; head slightly wider than long (about 9:7, measured to mouth margin) viewed from the front; malar space about equal to greatest eye-diameter; scrobes short, shallowly impressed on face, not clearly defined above; antennal insertions well below lower eye-level, separated from mouth by about the greatest diameter of an insertion; antenna as in fig. 11, the scape ventrally expanded; club obliquely truncate apically, its last segment very short but apparently entirely separated by a septum from the second club segment; funicle segments III—VI and all club segments with rhinaria; mandible tridentate (fig. 12) and with a broad straight dorsal cutting edge; maxillary palpi with four segments, labial with three. Head including face and cheeks but not scrobes setose, the setae long, slender, shiny; eyes densely and rather coarsely setose; entire head uniformly cellulate-reticulate, rather coarsely so, the cells readily resolvable at $50\times$ magnification.

Thorax dorsally not strongly elevated; mesoscutum without parapsidal sulci; axillae almost meeting medially, their surfaces in a plane with scutellum which is only slightly convex on the disc; metanotum hidden medially, not strongly curved; propodeum somewhat longer at sides than at middle, internally strengthened by two submedian longitudinal keels; mesonotum uniformly setose; mesoscutum finely cellulate-reticulate, the sculpture not raised, the cells resolvable at $100\times$ magnification; scutellum and axillae with similar but much more strongly raised sculpture, which is about as coarse as that on head.

Legs not specially modified, the stout middle tibial spur of middle leg shorter than adjacent tarsal segment.

Fore wing (fig. 10) with submarginal vein slender; marginal less than one-half as long as stigmal; apex of postmarginal not marked by a strong seta, the vein's length difficult to determine, but shorter than stigmal; the latter almost straight, rather long; speculum reaching neither venation nor caudal wing margin, interrupted by a few coarse setae near caudal end; basal triangle of wing densely setose, the setae slender in hyaline parts, coarse in infuscated areas; wing darkly infuscated in a patch at base and in a large suboval discal area of which the midpoint is caudad to stigmal vein; remainder of distal part of wing more palely infuscated save a band caudally and distally enclosing the oval infuscation. Hind wing hyaline, rather broad, with apex bluntly rounded.

Gaster shorter than thorax, broadly rounded apically, the ovipositor and



Figs. 10-14. *Comperia* species. 10-12. *C. domestica* spec. nov., ♀-paratypes. 10. Right fore wing, with details of venation (T 2380). 11. Right antenna, outer aspect (T 1810). 12. Mandible (T 2380). 13-14. *C. hirsuta* spec. nov., ♀-paratype T 1795. 13. Right fore wing, with details of venation. 14. Right antenna, outer aspect.

styli not or hardly extruded; ovipositor more or less than two-thirds as long as middle tibia, the styli approximately one-half as long as middle tibial spur.

MATERIAL EXAMINED. ♀-Holotype and 13 ♀-paratypes collected by the writer with the following data: SOUTH AFRICA: Pretoria, Tvl, iii. 1957 (1♀ T 1807), v. 1958 (2♀ T 1810, 2283), ii–vii. 1959 (8♀ T 1814, 1821), caught in suction trap; i–ii. 1967 (2♀ T 2380), caught in laboratory; Lynneast, Tvl, ii. 1958 (1♀ T 2283), caught in suction trap. The holotype is card-pointed, T 2380, and together with paratypes is in the National Collection of Insects, Plant Protection Research Institute, Pretoria. One paratype will be deposited in both the British Museum (Nat. Hist.) and United States National Museum collections.

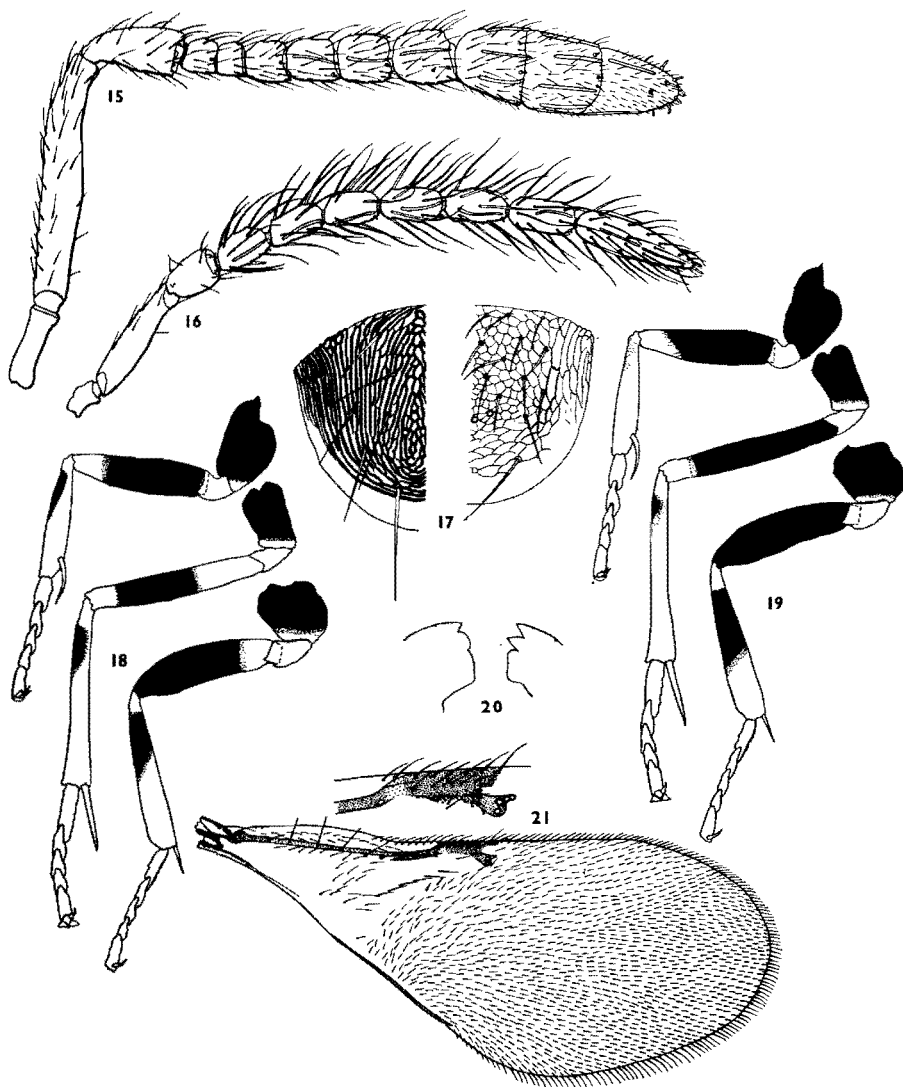
***Comperia hirsuta* spec. nov., figs 13–14**

FEMALE. Colour (card-pointed specimens, formerly preserved in 70% alcohol) dark, dully metallic; head dark greenish-black; antennal radicle brownish; scape dark brown except for a broad streak on inner surface; pedicel and first four funicle segments dark brown, the fourth funicle fading slightly distally; last two funicle and all club segments white; frontovertex, face, cheeks and temples with dense recumbent silvery-white setae which tend to obscure ground colour of sclerites; mesonotum similar in colour to head anteriorly, but with more dark coppery tones on disc of mesoscutum and caudad; pronotum pallid on caudal margin; sides and venter of thorax brownish-white; mesonotum with recumbent silvery-white setae as on head; legs brownish-white with distal ends of femora marked with dark brown; tibiae each with two or three more or less complete, narrow, dark brown bands, those on hind tibia more or less confluent, and with apices narrowly dark brown; fore wing (fig. 13) strongly infuscated in a large subcircular area beneath and beyond distal part of venation, palely so elsewhere except in a broad transverse hyaline band enclosing the darker infuscation; hind wing hyaline; gaster dark brown, submetallic or shiny across base dorsally.

Length about 1–5 mm.

Head with frontovertex at median ocellus approximately one-fifth head width; ocelli in an acute-angled triangle, the anterior angle about 45°, the lateral pair almost touching orbits, separated by about twice an ocellar diameter; scrobes shallowly and broadly impressed on face as a subsemicircular impression, meeting above; antenna (fig. 14) with scape broadly expanded ventrally; club with third segment much reduced, more nearly squarely than obliquely truncate apically; mandible tridentate, the upper one extended dorsad as a broad cutting edge (similar to that illustrated in fig. 12). Head entirely setose except occiput, the setae recumbent and appearing somewhat flattened; eyes densely and coarsely setose; surface of head coarsely cellulate-reticulate, the single cells readily resolved at 50 × magnification.

Thorax not strongly elevated, almost flat; mesoscutum without parapsidal sulci; axillae almost in a plane with mesoscutum and scutellum, almost meeting mesally; scutellum longer than wide, pointed caudally where it fully overlaps propodeum; sculpture of mesonotum, metanotum laterally, and propodeum except medially, uniformly cellulate-reticulate, of the same texture and coarseness as on head; mesonotal setae long, recumbent, apparently somewhat flattened; scutellum with a pair of erect setae at apex; propodeum laterally setose, the setae long and conspicuous.



Figs. 15-21. *Aphidencyrthus* species. 15. *A. africanus* Gahan, right antenna (♀ T 550-1). 16. *A. africanus*, right antenna (♂ T 550-2). 17. Scutellar sculpture and setation, *A. cassatus* spec. nov. on left (♀-paratype T 2238-1), *A. africanus* on right (♀ T 1010-1). 18. *A. cassatus*, legs, diagrammatic, showing maculation. 19. *A. africanus*, the same. 20. Apex of mandible, *A. cassatus* on left (♀-paratype T 2238-2), *A. africanus* on right (♀ T 1010-1). 21. *A. africanus*, right fore wing, with details of venation (♀ T 550-1).

Legs not unusually modified, the middle tibial spur shorter than the stout adjacent tarsal segment.

Fore wing (fig. 13) with marginal vein short, less than one-half stigmal; postmarginal apparently very short (measured to distal stout seta); speculum incomplete cephalically and caudally, interrupted near caudal end by 3–4 rows of setae; basal triangle of wing densely setose; discal setae of wing dense, coarse, except in hyaline area where they are very fine. Hind wing densely and finely setose, the apex rounded.

Gaster much shorter than thorax, rounded at apex, the ovipositor hidden; ovipositor shorter than middle tibia (about 7:9); middle tibial spur longer than stylus (about 5:4).

MATERIAL EXAMINED. ♀-Holotype and 3 ♀-paratypes caught in suction trap by the writer with the following data: SOUTH AFRICA: Kirstenbosch, Cape Prov., xii. 1958 (2 ♀ T 1795); i. 1959 (1 ♀ T 1796); ii. 1959 (1 ♀ T 1797). The holotype, a card-pointed specimen, T 1795, and two paratypes (slide mounted), in the National Collection of Insects, Plant Protection Research Institute, Pretoria. One paratype (card-pointed), in the United States National Museum.

Genus *APHIDENCYRTUS* Ashmead, 1900

Aphidencyrtus africanus Gahan, 1932, figs 15–17, 19–21

Aphidencyrtus africanus Gahan, 1932, Stylops 1: 220–1

Aphidencyrtus gomphocarpusae Risbec, 1952, *Mem. Inst. scient. Madagascar* 2: 52–4, syn. nov.

The types of *A. gomphocarpusae* have not been available for study. However, two female specimens (detailed below) from Madagascar, determined as *A. gomphocarpusae* by Risbec, have been properly slide-mounted and examined in detail. They show no differences at all from *A. africanus*, and Risbec's species is therefore placed in synonymy.

A. africanus is a common and widespread secondary parasite of aphids in Africa. It may be readily recognized by the following characters: antennal scape cylindrical (fig. 15), about six times as long as wide; mandible (fig. 20) with middle tooth acute at apex; scutellar sculpture (fig. 17) like that of mesoscutum, cellulate-reticulate or imbricate, the surface smooth at low magnifications; scutellar setae as in fig. 17; propodeal setae numerous lateral to each spiracle; colour of legs slightly variable, usually as in fig. 19; fore wing and venation as in fig. 21; male antenna as in fig. 16.

MATERIAL EXAMINED. MADAGASCAR: Tsimbazaza, coll. 11/6/52, emerged 25, No. 1078, Inst. Scient. Madagascar, "parasite des pucerons sur *Kalanchoe campanulata*", det. "*Aphidencyrtus gomphocarpus* Risbec" in Risbec's hand, remounted 1968 on two slides (2 ♀ T 2692). SOUTH AFRICA: Roodeplaat, Tvl, iii–vii. 1966, C. C. Daiber, ex *Myzus persicae* and *Lipaphis erysimipseudobrassicae* on cabbage, 24 ♀ 9 ♂ (T 2295, 2296); Trichardt, Tvl, ii. 1962, J. J. Matthee, ex *Longiunguis sacchari* on *Sorghum vulgare*, 2 ♀ 1 ♂ (T 1010); Pretoria, Tvl, vii. 1961, R. Briggs, ex *Schizaphis graminum* on wheat, many specimens (T 550); Zebediela, Tvl, 1960–61, H. J. Merrem, ex citrus aphids, many specimens (T 505).

***Aphidencyrtus cassatus* spec. nov.**, figs 17, 18 and 20

Colour of both sexes black with metallic gleam, similar to *A. africanus*; fronto-vertex gleaming faintly mauvish; face shiny black; mesoscutum strongly green; axillae strongly mauve; scutellum mat due to sculpture, with green sheen especially posteriorly; gaster brilliantly refringent, green across base dorsally, elsewhere with shades of mauve; scape black with about apical one-fourth whitish; pedicel dorsally concolorous, the extreme apex pallid; remainder of antenna brownish-white; legs as in fig. 18, the dark areas black to brownish-black, differing from *africanus* most obviously in the white proximal part of middle femur; mark on mid tibia usually not a band but an external patch; wings hyaline.

FEMALE. Differs from *africanus* in the following respects: antennal scape slightly expanded below, about four times as long as greatest width just beyond middle; scutellar sculpture (fig. 17) appearing rough and mat, in contrast to mesoscutum which is smooth and shining at low magnifications, the sculpture consisting mainly of longitudinal ridges with a few cells near midline; mandible (fig. 20) with middle tooth bluntly rounded at apex; scutellar setae generally longer and more sparse than in *africanus* (fig. 17); propodeal setae numbering about six lateral to each spiracle.

MATERIAL EXAMINED. ♀-Holotype, 223♀- 202♂-paratypes with the following collection data: SOUTH AFRICA: Durban, Natal, xi. 1962, E. C. G. Bedford, ex *Trioza erytrae* (Del Guercio) on citrus, ♀-holotype, 13♀- 5♂-paratypes (T 2470); Tzaneen, Tvl, vi. 1966, A. L. Capener, ex *Trioza erytrae* on *Stephania abyssinica* (Menispermaceae), 12♀- 4♂-paratypes (T 2238); Pretoria, Tvl, ix. 1965, M. J. Mynhardt, ex psyllid nymphs on *Acacia* sp., 1♀- 1♂-paratypes (T 2024). SWAZILAND: Malkerns Distr., vi and xii. 1966, H. D. Catling, ex *Trioza erytrae* on citrus, 159♀- 143♂-paratypes (T 2485, 2486); vi. 1967, H. D. Catling, suction trap on citrus, 28♀- 26♂-paratypes (T 2410); RHODESIA: Salisbury, autumn 1967, J. R. Blowers, ex *Trioza erytrae* on citrus (hyperparasite), 3♀- 4♂-paratypes (T 2422). One of the collectors, Mr H. D. Catling (personal communication, 1968), states that the above new species was reared from two primary hosts, namely, *Tetrastichus radiatus* Waterston and *Psyllaephagus pulvinatus* (Waterston). Holotype and paratypes in the Plant Protection Research Institute, Pretoria; 5♀- 5♂-paratypes in both the United States National Museum, Washington, and the British Museum (Natural History), London.

Genus ***STRPHOPHAGUS*** Ashmead, 1900***Syrphophagus nigrocyaneus*** Ashmead, 1904

Syrphophagus nigrocyaneus Ashmead, 1904, *Jl N.Y. ent. Soc.* **12**: 155; Tachikawa, 1963, *Mém. Ehime Univ.* (Sect. 6 Agric.) **9**: 219-23.

This is the first record known to the writer of this species outside Japan. The South African material agrees in every detail with Tachikawa's (1963) redescription except that the lateral ocelli of the female are removed from the eyes by about one-half an ocellar diameter, and do not almost touch the eyes. Japanese specimens listed below are identical in this respect.

MATERIAL EXAMINED. SOUTH AFRICA: Roodeplaat, Tvl, C. C. Daiber, ex pupa of syrphid fly (probably *Xanthogramma aegyptium* (Wied.)), (T 2419, 39♀ 14♂).

JAPAN: Yokohama, I. xii. 1920, C. P. Clausen's No. 1410, "external parasite of mature syrphid larva in puparium," 3 ♀ received from H. Compere, University of California, Riverside, whose determination they show.

Genus *CLAUSENIA* Ishii, 1923

Clausenia comperei Kerrich, 1967, figs 22—26

Clausenia comperei Kerrich, 1967, *Bull. Br. Mus. nat. Hist. (Ent.)* **20**: 185, 188.

This species was described in the female sex from South African and Eritrean material. While Kerrich's (1967) paper was in press, he very kindly identified a sample of the material listed below as *C. comperei*. This identification is accepted for all the material listed, and a brief description of the male is given here, together with a note on the female.

MALE. Similar in colour to female but the metallic colours generally less bright; mesoscutal sculpture coarser than in female, the cells readily resolvable at 50 × magnification, of the same size and coarseness as on the scutellum, about twice the size of those in female; antenna as in fig. 26, the scape about 3.5 times as long as wide; venation of forewing as in fig. 24; gaster similar to that of female but the cercal plates not so retracted, the hind margins of terga VII, VIII and X produced mesocaudally; paratergites as seen in cleared slide-mounted specimens (both males and females) present as narrow, oblique sclerotized plates lying mesocaudad to each cercal plate, the anterior end of each curving narrowly round the cercal plate.

FEMALE. Agrees well with the description (Kerrich, 1967) except that in the Zebediela and Letaba material the shortest (ventral) length of second club segment (fig. 25) is less than one-half as long as its greatest length along dorsal edge; antennal scape about 8 times as long as wide (not including radicle); head as in fig. 23.

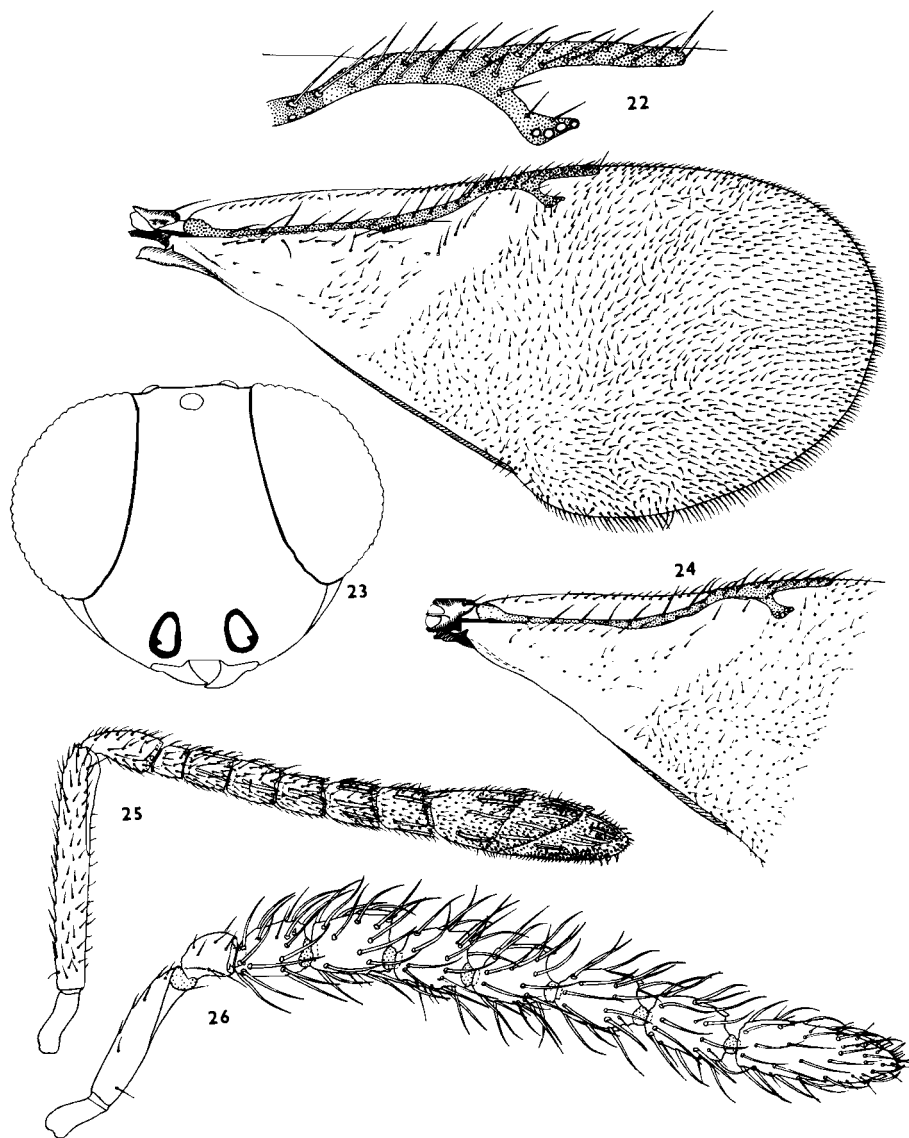
MATERIAL EXAMINED. 1 ♀-paratype from Pienaarspoort, Tvl, (see Kerrich, 1967) and 165 ♀ 175 ♂ with the following data: SOUTH AFRICA: Pretoria, Tvl, vi. 1962, C. J. Cilliers, on *Protea caffra*, 3 ♀ 3 ♂ (T 1009); Zebediela, Tvl, various dates 1965–67, H. Baas, on citrus, 84 ♀ 87 ♂ (T 2248, 2257, 2350); Letaba, Tvl, xi. 1966, H. D. Catling, suction trap on citrus, 78 ♀ 85 ♂ (T 2358). About 100 of the Zebediela specimens were reared by the collector from isolated hosts determined by him as *Paracoccus burnerae* (Brain). A sample of this reared material was kindly determined by Mr G. J. Kerrich, Commonwealth Institute of Entomology, London.

It is likely that *C. comperei* is parasitic exclusively in mealybugs. According to Mr G. de Lotto, Plant Protection Research Institute, Pretoria, mealybugs occur on *Protea caffra* which are rather closely related to *Paracoccus burnerae*, the host of the species on citrus. The same is true of *Acacia karroo* in the vicinity of Pretoria where part of the type-series was collected.

Genus *ALAMELLA* Man Mohan, 1966

Alamella Man Mohan, 1966, *Proc. Ind. Acad. Sci.* **63**: 74–7.

The type-species from India is the only known species of the genus. It is recorded as a parasite of *Eriococcus greeni* Newstead. During 1966 Mr G. J. Kerrich,



Figs. 22–26. *Clausenia comperei* Kerrich. 22. Right fore wing, with details of venation (♀ T 2350–1). 23. Front view of head (♀ T 2350–1). 24. Base of fore wing (♂ T 2350–2). 25. Right antenna, outer aspect (♀ T 2350–1). 26. The same (♂ T 2350–2).

Commonwealth Institute of Entomology, London, very kindly determined some or the South African material dealt with below as congeneric with the Indian species. It is a pleasure to name the species for him.

The new species may be distinguished in the female sex by having the basal funicle segments only slightly longer than the apical one (fig. 28); postmarginal vein clear and well defined, shorter than stigmal (figs 27 and 32); ocelli in a slightly to plainly obtuse-angled triangle.

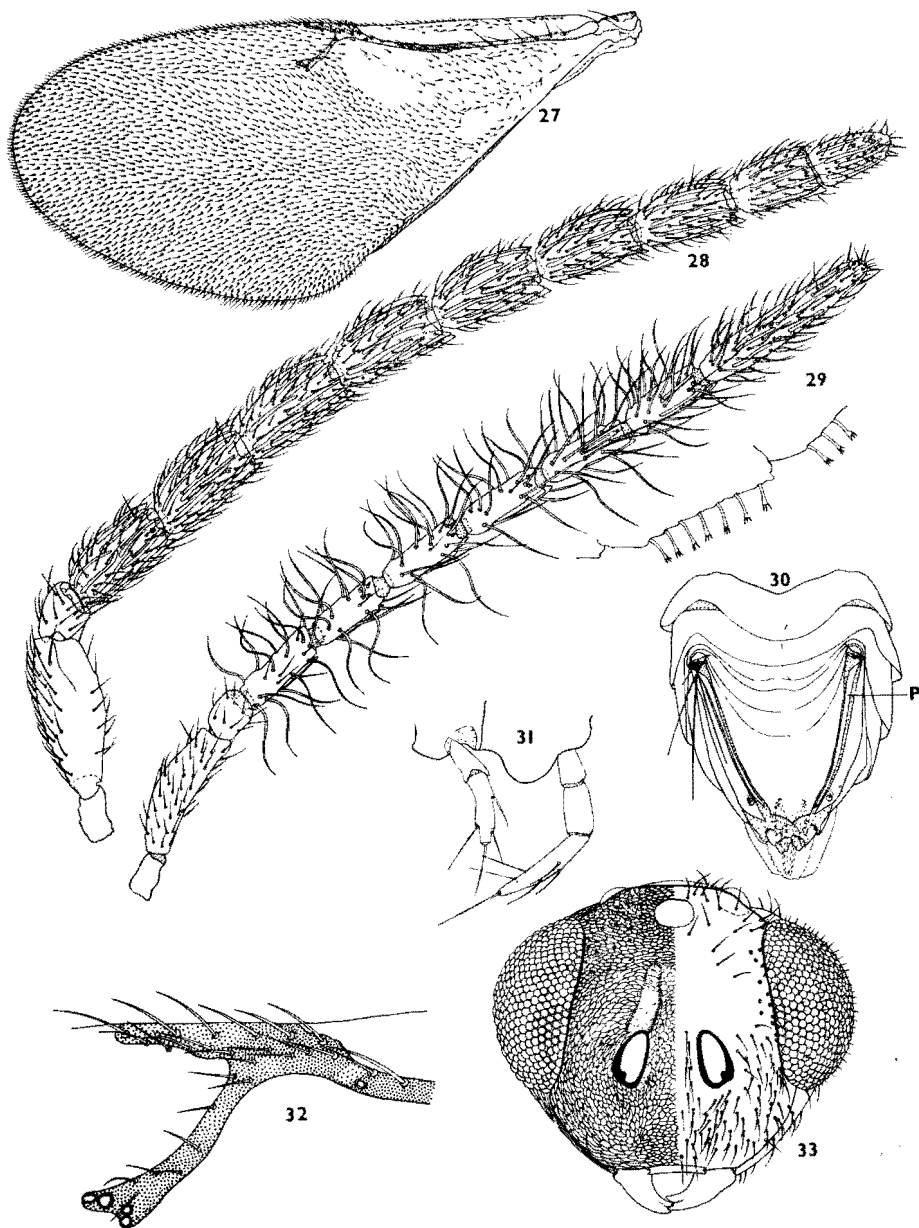
***Alamella kerrichi* spec. nov., figs 27—33**

FEMALE. Colour largely testaceous; frontovertex and face pale yellowish, the scrobes above slightly embrowned; tips of mandibles dark brown; antenna with scape pale yellowish except dorsally towards apex; flagellum blackish-brown above, pale below; occiput largely brown to blackish-brown, fading to pale yellowish towards fronto-occipital margin; pronotum largely blackish-brown, fading to brown or dark testaceous near mesoscutal margin and laterally; mesoscutum brown to dark testaceous anteriorly, fading to pale yellowish in about caudal one-half; axillae and scutellum testaceous; mesonotal setae shining silvery in plays of light, dark brown in colour; propodeum washed with brownish; legs yellowish-white, the tibiae appearing brownish in plays of light, wings hyaline; gaster brownish to dusky laterad and across base dorsally, elsewhere yellowish-brown.

Length about 1.2 mm.

Head (fig. 33) with frontovertex about one-half head width, wider than long; ocelli large, in an obtuse-angled triangle, the lateral pair about one-half their diameter from both orbit and from acutely angled fronto-occipital margin; face slightly inflexed; antennal insertions with their lower level at about lower eye-level; scrobes short, plainly impressed, subvertical, not confluent dorsally; in front view, upper profile of head fairly strongly arched, the frontovertex being rather convex; cheeks curved to mouth; mandibles bidentate; maxillary palpi with three segments, labial with two (fig. 31); antenna (fig. 28) with scape slightly expanded ventrally, almost three times as long as greatest width, about as long as club; pedicel short, a little longer than wide near apex, about one-half as long as first funicle segment which is about twice as long as wide; funicle segments subequal, the distal ones becoming a trifle shorter, the seventh about as wide but shorter (about 6:7) than the first; club two-segmented, not swollen; funicle and club segment setose and with numerous rhinaria. Frontovertex evenly cellulate-reticulate; the cells small, resolvable at $100\times$ magnifications, the surface appearing mat and dull; face with similar cellulate sculpture but finer and less raised, the surface appearing smooth and shiny at $100\times$ magnification; frontovertex with a few scattered slender setae; eyes setose, the setae dark, about as long as diameter of an ommatidium.

Thorax with pronotum short and rounded in dorsal view; mesoscutum wider than long, without a trace of parapsidal sulci, with a broad median salient on hind margin which almost obscures mesal angles of axillae; the latter in a convex plane with mesoscutum and scutellum; scutellum not strongly elevated on the disc, longer than wide, apex acutely rounded; metanotum almost transverse, medially hidden by apex of scutellum; propodeum very short medially, the posterolateral angles rounded; mesonotum with numerous appressed setae, those at and towards apex of scutellum more upright and stouter; propodeum with a number of setae lateral to spiracle; mesonotum



Figs. 27-33. *Alamella kerrichi* spec. nov., paratypes. 27. Left fore wing (♀ T 2371-2). 28. Right antenna (♀ T 2371-2). 29. Male antenna, sensory setae on last funicle segment and base of club shown separately (T 2371-3). 30. Gaster, showing paratergites, P (♀ T 2371-2). 31. Maxillary and labial (on left) palpi (♀ T 2371-1). 32. Details of venation of fore wing (♀ T 2371-2). 33. Front view of head (♀ T 2371-1).

uniformly cellulate-reticulate, the sculpture rather fine, the cells resolvable at 100× magnification.

Legs without special modifications, the middle tibial spur slightly shorter than adjacent tarsal segment.

Fore wing (figs 27 and 32) with venation not reaching halfway into length of wing; submarginal vein slender; marginal (fig. 32) less than twice as long as wide; postmarginal sometimes not very distinct, longer than marginal but shorter than stigmal which reaches further towards apex of wing than postmarginal; stigmal curved, at a wide angle to postmarginal; basal triangle with numerous scattered setae and a bare area beneath about distal one-third of submarginal vein; speculum broadly interrupted in caudal one-half, reaching neither hind wing margin nor stigmal vein; distal part of wing densely setose; marginal cilia rather short; hind wing densely setose from near base to apex.

Gaster (fig. 30) slightly shorter than thorax; somewhat heart-shaped; apical ventral sternite ploughshare-shaped; cercal plates strongly retracted to about the level of the proximal one-fourth of gaster; paratergites (fig. 30, P) present as long narrow sclerites laterad to tenth tergum; ovipositor short, concealed, about one-half as long as middle tibia.

MALE. Not very different from female in colour or structure; antenna (fig. 29) with funicle six-segmented, club of a single segment; funicle with long curved setae giving the antenna a hairy appearance; last funicle segment with a straight row, continuing on base of club, of about 11 slender, presumably sensory, setae (fig. 29); club about as long as preceding two segments together.

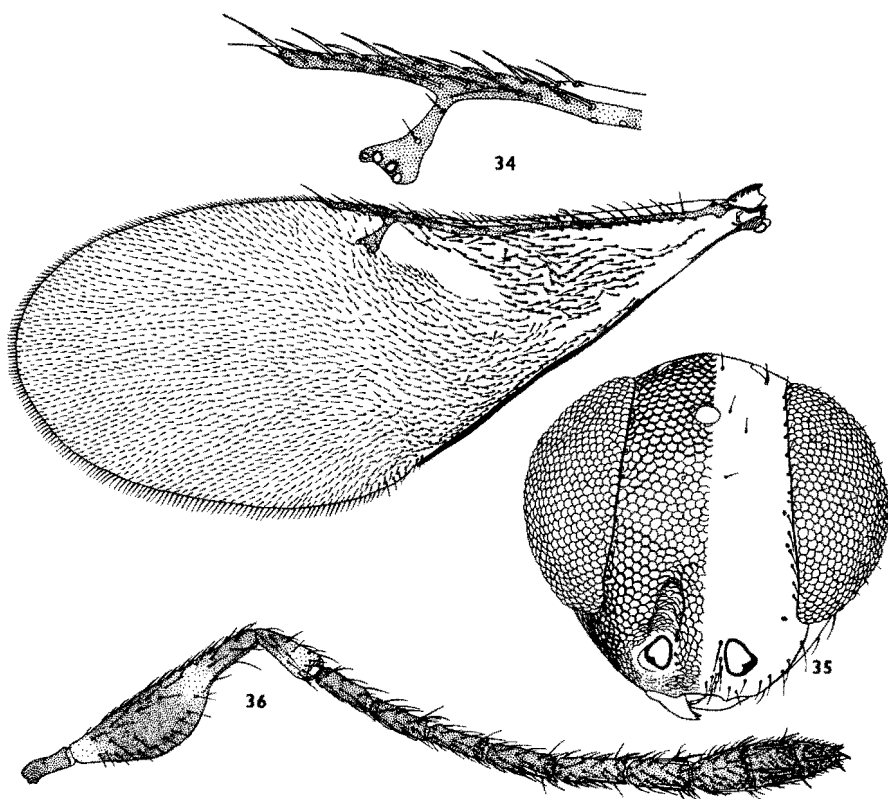
MATERIAL EXAMINED. ♀-Holotype and 129-♀ 29♂, -paratypes with the following data: SOUTH AFRICA: Zebediela, Tvl, various dates, 1966, H. Baas, ex *Nipaecoccus vastator* (Maskell) suction trap and ex *Paracoccus burnerae* (Brain) on citrus, 81♀ 18♂ (T 2340); Letaba, Tvl, xi. 1966, H. D. Catling, suction trap on citrus, 19♀ 3♂ (T 2356); Pretoria, Tvl, xii. 1958, E. C. G. Bedford, ex *Nipaecoccus vastator* on Jacaranda, 22♀ 7♂ (T 2371); Ndumu, Natal, ix. 1961, D. P. Annecke, ex mealybug on *Acacia tortilis*, 7♀ 1♂ (T 718). Holotype and paratypes in the Plant Protection Research Institute, Pretoria; paratypes in both the United States National Museum, Washington, and the British Museum (Natural History), London.

Genus *GYRANUSOIDEA* Compere, 1947

Gyranusoidea munda spec. nov., figs 34—36

This is the second species to be assigned to *Gyranusoidea* Compere, 1947. It is very similar to the type-species, *G. citrina* (Compere, 1938), with paratypes of which it has been compared. The new species is described with reference to *G. citrina*.

FEMALE. Colour slightly darker, yellow to whitish-yellow; middle leg with a small brown streak externally near apex of femur, and another near base of tibia; fore wing (fig. 34) with a well defined hairless area beneath a row of setae along basal one-half of submarginal vein; postmarginal vein (fig. 34) longer relative to marginal and stigmal which are subequal; antenna (fig. 36) with radicle dark brown, not whitish as in *citrina*; scape more extensively blackish-brown, whitish only narrowly at base and in a sub-apical band at apex of ventral expansion; pedicel dark brown dorsobasally, most



Figs. 34–36. *Cyranusoidea munda* spec. nov., ♀-paratypes, T. 2335–1. 34. Left fore wing, with details of venation. 35. Front view of head. 36. Antenna. Figs. 1–36 del. Mrs M. J. Mynhardt.

of the venter, and the distal one-half whitish; flagellum brown to dark brown, slightly paler towards apex, at least ventrally; funicle segments longer than in *citrina*, the sixth 1.8–2.3 times as long as wide. Paratergites are not clear in dissected specimens; slender, ill-defined plates, perhaps representing paratergites, appear to be present along the outer edges of the tenth tergum.

Length about 1.2 mm.

MATERIAL EXAMINED. ♀-Holotype and 20 ♀-paratypes with the following data: SOUTH AFRICA: Zebediela, Tvl, various dates 1966, H. Baas, ex *Paracoccus burnerae* (Brain) and *Nipaecoccus vastator* (Maskell), and caught in suction trap, on citrus (T 2335). Holotype and paratypes in National Collection of Insects, Plant Protection Research Institute, Pretoria; one paratype in both the United States National Museum, Washington, and the British Museum (Natural History), London.

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